



**ATTENTION**  
OBSERVE PRECAUTIONS  
FOR HANDLING  
ELECTROSTATIC  
DISCHARGE  
SENSITIVE  
DEVICES

**arlight**

## ARL-5213RGBC/4A



### Features

- UNIFORM LIGHT OUTPUT
- LOW POWER CONSUMPTION
- I.C. COMPATIBLE
- LONGLIFE - SOLID STATE RELIABILITY
- COMMON ANODE

### Description

- The Red source color devices are made with AlGaInP on GaAs substrate Light Emitting Diode
- The Green source color devices are made with InGaN on sic Light Emitting Diode
- The Blue source color devices are made with InGaAlN on sic Light Emitting Diode.

### Usage Notes

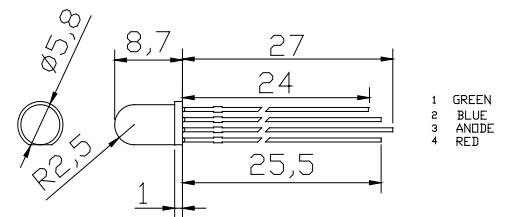
The ultra bright LED is an electrostatic insensitive device, so static electricity and surge will damage the LED. It is required to wear a wrist-band when handling the LED. All device, equipment, machinery, desk and ground must be properly grounded

When using LED, it must use a protective resistor in series with DC current about 20mA

### Applications

- Status indicators
- Commercial use
- Advertising Signs
- Back lighting

### Package Dimensions



UNIT:mm

#### Notes:

1. Other dimensions are in millimeters, tolerance is 0.25mm except being specified.
2. Protruded resin under flange is 1.5mm Max LED.
3. Bare copper alloy is exposed at tie-bar portion after cutting.

### Device Selection Guide

Part No.	Chip		Lens Color
	Material	Emitted Color	
ARL-5213RGBC/4A	AlGaInP	Red	White diffused
	InGaN	Green	
	InGaN	Blue	

### Electrical / Optical Characteristics at TA=25°C

Parameter	Symbol	Device	Min	Typ.	Max.	Units	Test Conditions
Luminous Intensity	I <sub>v</sub>	Red Green Blue	1000 1500 1000	1500 2000 1200	2000 3000 1500	mcd	IF=20mA
Viewing Angle	2θ <sub>1/2</sub>	Red Green Blue	30	40	45	Deg	(Note 1)
Peak Emission Wavelength	λ <sub>p</sub>	Red Green Blue	625 520 460	630 525 465	640 530 470	nm	IF=20mA
Spectral Line Half-Width	λ	Red Green Blue	15 15 25	20 20 30	25 25 35	nm	IF=20mA
Forward Voltage	V <sub>F</sub>	Red Green Blue	1.9 2.9 2.9	--- --- ---	2.4 3.3 3.3	V	IF=20mA
Reverse Current	I <sub>R</sub>	Red Green Blue	---	---	10	μA	VR=5V

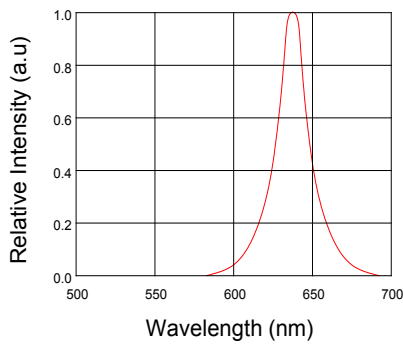
# Absolute Maximum Rating ( $T_a = 25^\circ\text{C}$ )

Parameter	Symbol	Absolute Maximum Rating	Units
Forward Pulse Current	$I_{FPM}$	R:60 G: 100 B: 100	mA
Forward Current	$I_{FM}$	20	mA
Reverse Voltage	$V_R$	5	V
Power Dissipation	$P_D$	R :60 G: 130 B: 130	mW
Operating Temperature	Topr	-40 ~ +80	$^\circ\text{C}$
Storage Temperature	Tstg	-40 ~ +100	$^\circ\text{C}$
Soldering Temperature	Tsol	Reflow Soldering : 260 $^\circ\text{C}$ for 10 sec. Hand Soldering : 350 $^\circ\text{C}$ for 3 sec.	$^\circ\text{C}$

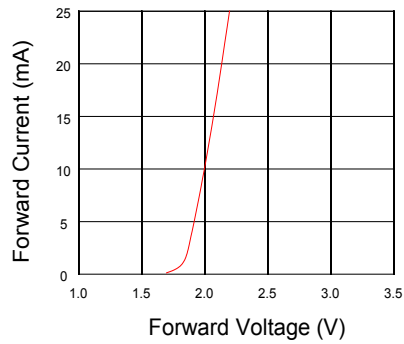
## Typical Electro-Optical Characteristics Curves

### ● RED

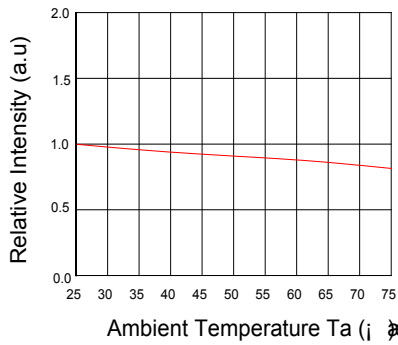
Relative Intensity VS. Wavelength



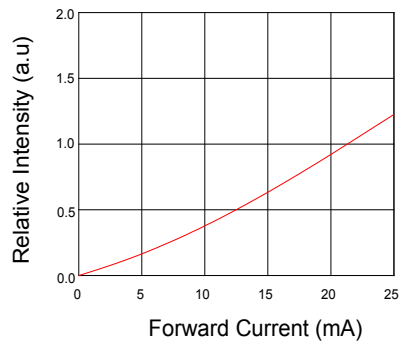
Forward Current VS. Forward Voltage



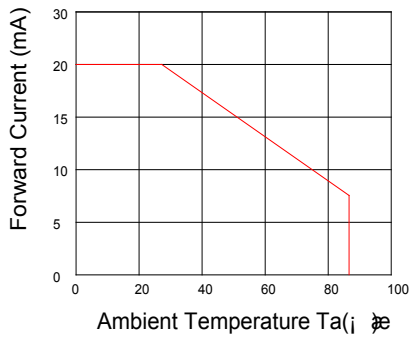
Relative Intensity VS. Ambient Temp



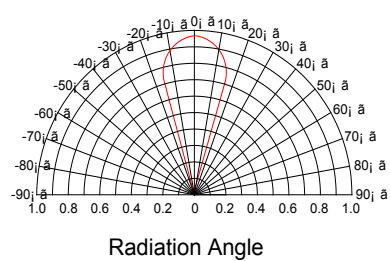
Forward Current VS. Relative Intensity



Forward Current VS. Ambient Temp.

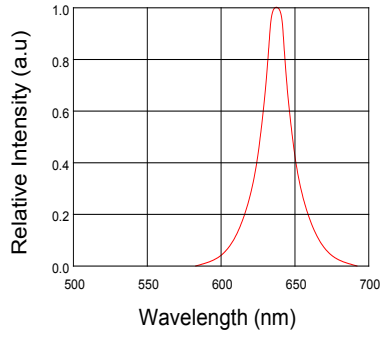


Radiation Characteristics

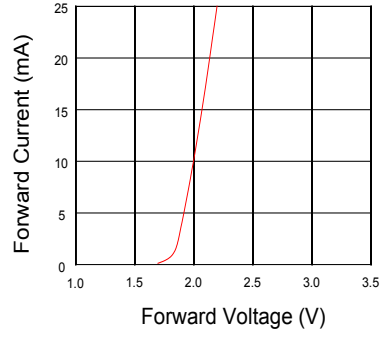


● GREEN

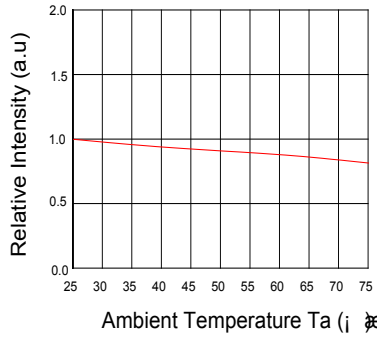
Relative Intensity VS. Wavelength



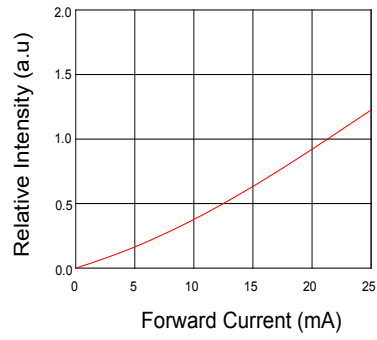
Forward Current VS. Forward Voltage



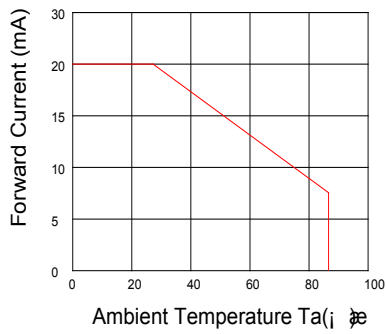
Relative Intensity VS. Ambient Temp



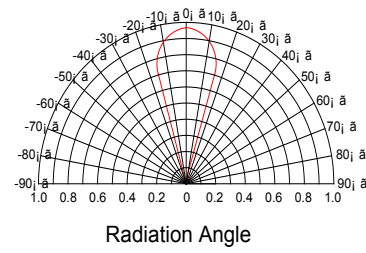
Forward Current VS. Relative Intensity



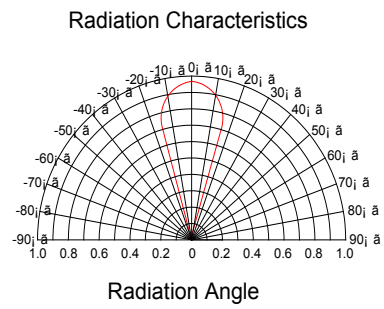
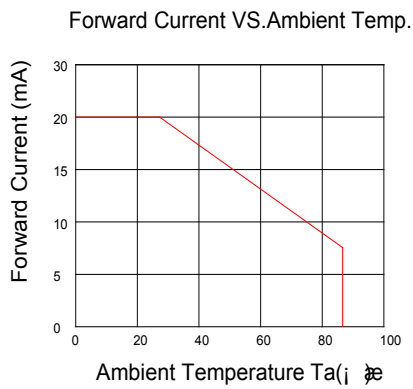
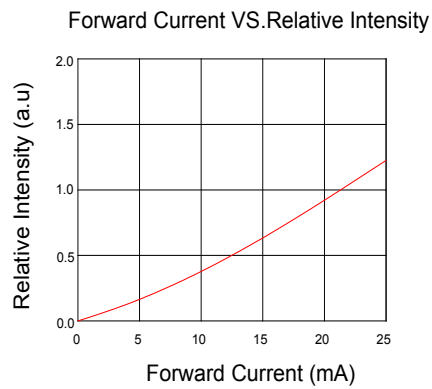
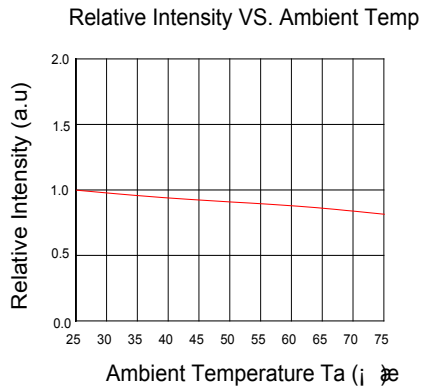
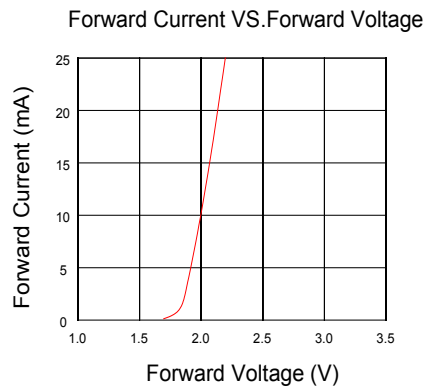
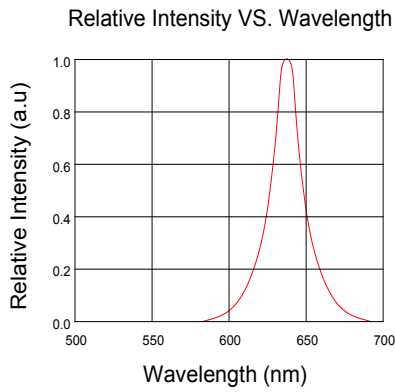
Forward Current VS. Ambient Temp.



Radiation Characteristics



● **BLUE**



**Notes:** 1. Above specification may be changed without notice.

2. When using this product, please observe the absolute maximum ratings and the instructions for using outlined in these specification sheets. We assume no responsibility for any damage resulting from use of the product which does not comply with the absolute maximum ratings and the instructions included in these specification sheets.